

## Highlights

- *Served in multiple leadership positions, both technical and administrative in the Federal government over the last 10 years.*
- *Currently oversee over \$150M in research and development programs with industry, universities, national laboratories, and environmental non-profit groups*
- *Internationally recognized expert in bioenergy technology development and in particular the environmental impacts and benefits of bioenergy*
- *Frequent invited keynote speaker at national conferences*
- *Author and co-author of research reports and articles published in peer-reviewed journals*

## MANAGEMENT POSITIONS

*September 2013 to Present*

**Program Manager, Feedstock Supply and Logistics and Advanced Algal Systems,** Bioenergy Technologies Office, Energy Efficiency and Renewable Energy, U.S. Department of Energy.

- Guide a diverse research portfolio (~\$150M) developing technologies to provide a reliable, affordable and sustainable biomass supply to the growing advanced bioenergy industry. Primary areas of focus are feedstock resource assessment, feedstock logistics (i.e. harvesting, handling, collection, storage, preprocessing, and transportation), advanced algal biology, feedstock-conversion interface, and techno-economic analysis.
- Provide technical management and supervision to team of 15 federal staff and contractors (as well as over 30 national laboratory scientists) that are responsible for the research and development of terrestrial and algal feedstock supply systems and technologies that can provide a pathway to Bioenergy Technologies Office Program goals for cost-competitive alternative fuel options.
- As part of the Office's leadership team, collaborate on personnel, budget, strategic planning, and policy matters.
- Engage with Interact with stakeholders, national laboratory, university, and industry partners on currently-funded projects and future business opportunities to establish and implement a research strategy for advancing bioenergy production nationally.

*December 2011 to May 2015*

**Operations Director,** Bioenergy Technologies Office, Energy Efficiency and Renewable Energy, U.S. Department of Energy.

- Lead for financial management, human capital management, communications and information management, and business operations for the Office. Specific accomplishments include:
  - Spearheaded the establishment of a new organizational structure within BETO including the development of roles and responsibilities documentation for affected office staff
  - Designed and executed an implementation plan for the utilization of SharePoint for interoffice communication between Headquarters and the Golden Field Office, allowing for these two locations to share files in a directory structure for the first time

**MANAGEMENT POSITIONS** *(continued)*

- Saved significant technical staff time by formulating policies and procedures for Office operations related to budget, strategic planning, communications and outreach, and program and project management (including annual operating plan development, review, and approval); designed and implemented an information management system that was utilized as a model for EERE-wide application.
- Directed the creation and implementation of an innovative web-based communications and research framework that connects bioenergy stakeholders with best-available datasets, analytical tools, and subject-matter experts; system has been highlighted as part of Office, EERE, DOE, and government-wide Open Data initiatives.
- As national team lead for International Energy Agency-Bioenergy Task 38—Greenhouse Gas Accounting, have, alongside Australia, Brazil, and multiple European countries, jointly authored a portfolio of statements and reports providing international consensus on appropriate methodologies and reference systems for measuring the environmental impacts of bioenergy production

*June 2007 to December 2011*

**Physical Scientist and Technology Manager, Sustainable Bioenergy Production,** Bioenergy Technologies Office, Energy Efficiency and Renewable Energy, U.S. Department of Energy.

- Led the development of a new area of work within the Bioenergy Technologies Office focused on optimizing for environmental and economic performance of bioenergy
- Guided a diverse research portfolio which is engaged in research and analysis focused on key issues in the bioenergy sector including:
  - Understanding and accounting for the greenhouse gas emissions and water profile of alternative fuels along their life cycle
  - Identifying key metrics, indicators, and targets applicable to sustainable bioenergy production, and designing analytical tools to measure and monitor state of technology and progress
  - Modeling the biogeochemical cycling of energy crop-dominated ecosystems
  - Applying environmentally-responsive ecological and agricultural practices to bioenergy feedstock production
- Directed and managed substantial international engagement focused on sustainable bioenergy production in Brazil, Europe, Canada, Southeast Asia, and China, as well as global initiatives (Roundtable on Sustainable Biofuels, ISO Sustainability Standards for Biofuels, International Energy Agency working groups)
- Represented DOE interests and intervened when necessary with continuous engagement in the U.S. delegation to the Global Bioenergy Partnership (GBEP); served on two task forces: Sustainability and Capacity Building
- Contributed to responses to queries from DOE senior management, White House, Office of Management and Budget, Government Accountability Office, and congressional committees and subcommittees; responded to media reports and provided DOE messaging on key bioenergy issues
- Co-led Biomass Research and Development Board Interagency Working Group with U.S. Department of Agriculture and Environmental Protection Agency on Sustainability with goal of creating and developed a consensus document across federal agencies on a definition for biofuel sustainability and the appropriate metrics, criteria, and indicators to evaluate it.

## MANAGEMENT POSITIONS *(continued)*

*October to December 2011*

**Management and Program Analyst, Workforce Management Office, Energy Efficiency and Renewable Energy, U.S. Department of Energy**

- Initiated an Office Directors on-boarding experience that begins with a two-day “boot camp”; interviewed over ten Senior Executive Service corps members in EERE about their on-boarding experience and sought their input; developed a white paper and marketing materials; benchmarked other programs and talked with many stakeholders about the course and its potential benefits; designed the outline for the boot camp and a year-long follow-up program and engaged subject matter experts within EERE to discuss course content and implementation.
- Conducted an evaluation of “The Five Conversations” (supervisor training) attendees’ feedback data including appraisal of the program’s success; developed proposals for enhancing the ability to evaluate the effectiveness of the course including appropriate metrics and statistics for future evaluation
- Collaborated with senior specialists to develop on-line information presentations and supporting documents for the Human Capital Gateway that address supervisory training, employee onboarding, and learning and development
- Developed a four-part professional development lecture series for EERE employees on topics such as trust, engaging with your supervisor, diversity, and mentoring

## EXECUTIVE CORE QUALIFICATIONS

### LEADING CHANGE

- As Technology Manager, I designed and implemented a new and innovative “Sustainability” program within Department directorate that determined the environmental performance of existing biofuel production pathways and is developing new technologies to maximize environmental benefit. Overcame lack of funding, critical national press, and antagonistic environmental non-government organizations.
  - Established a pioneering collaboration model for national laboratories to work together; developed multi-year program plan and strategic objectives
  - Developed, released, and awarded a funding opportunity in a benchmark timeframe (announcement to award in three months, faster than previously thought possible)
  - Tracked local, national, and international policies and trends to formulate objectives and priorities that were aligned with our organization’s long-term interests and would have maximum beneficial impact on energy security, climate change mitigation, and economic development through increased bioenergy production and use.

## EXECUTIVE CORE QUALIFICATIONS *(continued)*

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- As the Department's primary liaison for sustainability initiatives related to the international bioenergy community, I negotiated bi-lateral and multi-lateral agreements, established cooperative research and development projects, and initiated exchanges of technical information with countries such as China, Brazil, Canada, and multiple European Union members.
- Organized three U.S./China Advanced Bioenergy Forums (one in China, two in the U.S.) detailing research cooperation along the entire bioenergy supply chain; resulted in the development of a Memorandum of Understanding between the two countries and \$2M in funding for joint projects between national laboratories and private companies (both in the U.S. and in China) to transfer technology on greenhouse gas accounting and biomass conversion.
- Provided technical expertise for substantial bi-lateral international engagement as well as multi-national initiatives such as the Global Bioenergy Partnership (GBEP), Roundtable on Sustainable Biomaterials, and International Energy Agency-Bioenergy working group on Greenhouse Gas Accounting. Through GBEP, 45 Countries and 22 International Organizations agreed on a set of 24 relevant, practical, science-based, voluntary sustainability indicators for bioenergy.
- As co-chair of the Biomass Research and Development Board's Interagency Working Group on Sustainability, I facilitated debate and discussion weekly among eight federal agencies and led the group in the development of a first-of-a-kind "dashboard" of metrics and indicators for sustainability to evaluate progress in federally-funded bioenergy research; Negotiated differences in opinion and in policy on controversial topics such as food security between the U.S. Department of Agriculture, the State Department, the U.S. Trade Representative, and the White House Office of Science and Technology Policy

## LEADING PEOPLE

- Fully outside of my work roles and responsibilities, in 2014, I brought a new coaching program for supervisors to DOE's Energy Efficiency and Renewable Energy (EERE) Office. Fifty staff were trained on giving feedback, techniques for employee engagement, and coaching for difficult employees. EERE Employee Engagement Indicator scores on the Federal Employee Viewpoint Survey increased markedly during this time period.
  - I identified a gap in EERE's Supervisory training, and researched options. Despite having no training in procurement, I worked with EERE's financial management and contracting office to bring the training to EERE for multiple course offerings.
  - I petitioned to the EERE Workforce Management Office to identify one of their employees to become certified to use the curriculum for training. I served as a primary coordinator and advocate for the program for two years, during which time course reviews were overwhelmingly positive.



## EXECUTIVE CORE QUALIFICATIONS *(continued)*

- While Operations Director, I served as Acting Advanced Algal Systems Program Manager, and Acting Feedstock Supply and Logistics Program Manager (all GS-15 positions). I led these three dissimilar areas simultaneously for over a year due to a hiring moratorium and two retirements; Due to my ability to quickly and effectively foster cohesive and highly productive teams, when the hiring “freeze” was lifted, I maintained two of the positions permanently.
  - As Program Manager for Advanced Algal Systems, I took on a new \$30 million per year area with a team in crisis and quickly established team unity and a transparent strategy, though quickly building trust, identifying the needs of each team member and maintaining constant communication and transparency.
- Because of my ability to enable others to succeed even prior to becoming a supervisor, and my commitment to promoting development opportunities for others, I have been recognized as an outstanding mentor and leader by subordinates through multiple formal and informal awards. I have received “Exceeds Expectations” performance ratings in the “Supervisory” critical element each year since becoming a supervisor.
  - I have promoted diversity in particular over the last two years, through beginning and leading a Women’s Leadership and Accountability Circle. I mentor up to five women simultaneously and bring leadership development topics each week for discussion.

## RESULTS DRIVEN

- As the first Operations Director for an Energy Efficiency and Renewable Energy office, I developed and implemented practices that became a model for other offices within EERE
  - Led the establishment of a new organizational structure within BETO that clearly defined roles and responsibilities for affected office staff, including developing and promulgating a standard set of performance review criteria for all technical staff.
  - Designed and executed an implementation plan for the utilization of SharePoint for interoffice communication between Headquarters (Washington, DC) and the Golden, Colorado Field Office, allowing for these two locations to share files in a directory structure for the first time. With this increased transparency and expedited information sharing, response times to external requests for information decreased and technology managers were able to become cross-functional.
  - Saved significant technical staff time by formulating policies and procedures for Office operations related to budget, strategic planning, communications and outreach, and program and project management (including annual operating plan development, review, and approval); designed and implemented an information management system that was utilized as a model for EERE-wide application. This system removed redundant effort when responding to requests, capitalizes on previous responses to save time and ensure consistency in message to internal and external stakeholders.
  - Recognized by EERE leadership and colleagues multiple times for exemplary performance (Energy Rock Star)

**EXECUTIVE CORE QUALIFICATIONS** *(continued)*

- As Program Manager for Feedstock Supply and Logistics, I led the development of an analysis of the technical feasibility of a billion-ton annual biomass supply chain by 2040, and developed accompanying on-line visualization tools that have been accessed by thousands of interested stakeholders and members of the research community since its release in July ([www.bioenergykdf.net/billionton2016](http://www.bioenergykdf.net/billionton2016)).
- Since 2005, the Department has conducted periodic resource assessments of national biomass potential, and has consistently identified over a billion tons of annual production potential by 2040 in the U.S.
- In 2016, I led a team of 65 scientists and other contributors from federal agencies, universities, and national laboratories to release the latest update to this analysis, which responded to stakeholder requests such as including the biomass potential from algae and the costs of delivering biomass to a conversion facility. The report (at 450 pages) was released on time despite significant delays due to interagency concurrence and Office of Management and Budget clearance.

**BUSINESS ACUMEN**

- Since joining the Bioenergy Technologies Office, I have designed and executed a knowledge base of collaboration, data management, analysis and visualization tools to support bioenergy research (Bioenergy Knowledge Discovery Framework (KDF) [www.bioenergykdf.net](http://www.bioenergykdf.net)) that demonstrated over \$2M in savings for the Bioenergy Technologies Office in its first two years of existence, through saved researcher time.
  - Launched in January 2013, the web-based portal has thousands of visitors from over 30 countries each year and was recognized as a best in class by the White House Open Data Initiative in 2014.
  - Previously, researchers had to respond to requests for data and information on bioenergy one-by-one, locating the required information and then sharing it with the requestor. The KDF eliminated this time and resource requirement almost entirely.
- As Program Manager for Feedstock Supply and Logistics, carried program of responsibility through a year of funding at less than 50 percent of historical levels without losing any full-time equivalent staff at national laboratories due to the reduced resources.
  - Negotiated with other programs to fund essential tasks, postponed competitive funding opportunity announcements, reduced scope of work to only mission critical tasks; maintained constant contact with lab management

## EXECUTIVE CORE QUALIFICATIONS *(continued)*

### BUILDING COALITIONS

- As the liaison to the Biomass Research and Development Board, I spearheaded the release of a new interagency initiative around growing the “bioeconomy” despite significant conflict among Board members on the mission and vision of the Initiative.
  - The Board, comprised of eight federal agencies, launched the Initiative through the release of three reports. While developing the second of these, one member, The Environmental Protection Agency (EPA), threatened to remove their seal from the report, and perhaps disavow the initiative entirely due to the perceived conflict between the vision of the Initiative and the potential environmental effects that were not given due consideration.
  - Other agencies did not support changing the mission and vision of the Initiative, and wanted to simply allow EPA to recuse themselves from participating.
  - I played a key leadership role in negotiating a compromise, which was a result of my clear understanding of the politics and organizational environment that created challenges for EPA. I spent hours in meetings with EPA, DOE, and USDA alone and together to discuss a path forward that met the needs of the member agencies.
  - EPA went from adversarial to fully engaged, and I convinced them EPA to take up a leadership role as co-chair of the Sustainability Working Group and on the development of the Initiative’s Implementation Plan, which will detail ways that the federal government can collaboratively support economic development, reduce greenhouse gas emissions, and generate the increased production of biofuels and biobased products in the United States.
- As Technology Manager for Sustainable Bioenergy, I was selected by a group of experts from 12 countries to lead development of a chapter on the environmental and social impacts of biofuels for the Intergovernmental Panel on Climate Change Special Report on Renewable Energy and Climate.
  - At this time, bioenergy was being criticized for adding to greenhouse gas emissions and causing other environmental and social problems, and many of the member countries found it irresponsible to promote bioenergy as a solution to climate change.
  - I facilitated significant discussion and debate on the current state of the science around this topic, and led the group in developing a document that included consensus statements on how increased and sustainable use of bioenergy can minimize negative impacts and maximize benefits with regard to social, economic and environmental issues.
  - This assessment drew on the work of hundreds of scientists from all over the world and enables policymakers at all levels of government to make sound, evidence-based decisions.

## OTHER PROFESSIONAL POSITIONS

- **Presidential Management Fellowship** (June 2007 – June 2009) Developed new portfolio of work for the program focused on overcoming the barriers associated with producing biofuels sustainably
- **Environmental Protection Agency Science to Achieve Results Graduate Fellowship** (August 2006) Assessing the Historical Impacts of Landscape Transformation on Water Fluxes for Environmental Monitoring and Assessment
- **Special Initiatives Fellowship** (August 2004) Developed mentoring program for new Earth and Atmospheric Sciences graduate students; Hosted meetings for all new graduate students in department to learn more about topic relevant to graduate student (funding, proposal writing, finding a research topic, etc.)
- **Department of Energy's Summer Undergraduate Laboratory Internship (SULI)** at Oak Ridge National Laboratory, Geographic Information Science and Technology Group (May – August 2003) Developed rating scheme for potential impact to drinking water quality by agricultural and urban applied pesticides

## PROFESSIONAL HONORS AND AWARDS

2016	U.S. Department of Energy. Award for Special Act or Service. <i>For deploying InsideOut coaching to supervisors within EERE.</i>
2015	U.S. Department of Energy. Award for Special Act or Service. <i>(For developing innovative review criteria as part of BETO bi-annual peer review.</i>
2015	U.S. Department of Energy. Energy Rock Star <i>For maintaining the responsibilities of three GS-15 FTEs over the last year.</i>
2014	U.S. Department of Energy. Award for Special Act or Service. (. <i>For outstanding leadership and contributions as Operations Supervisor</i>
2011	U.S. Department of Energy. Award for Special Act or Service. <i>For leadership in pulling together the Alternative Fuels Chapter for the Quadrennial Technology Review.</i>
2008	U.S. Department of Energy. Certificate of Appreciation <i>Outstanding contribution to leading the Biomass Program's Sustainability effort.</i>
2008	U.S. Department of Energy. Award for Special Act or Service. <i>Appreciation for initiative and outstanding leadership efforts of the Office of Biomass Sustainability efforts.</i>



## EDUCATION

Ph.D., Earth and Atmospheric Sciences; GPA: 4.0/4.0 *Assessing the Historical Impacts of Landscape Transformation on Water Fluxes in Muskegon River Watershed for Environmental Monitoring and Assessment [Dissertation]*

- In addition to my graduate work, I served as Special Assistant to the Associate Provost for Special Initiatives and the Director of the Discovery Learning Center. I supported development of interdisciplinary teams of faculty to seek funding for learning science projects and conducted assessment of a nanotechnology museum display for middle school students (Internal Review Board on use of Human Research Subjects certified)
- Also, I led six laboratory sections of the Capstone Environmental Science Seminar for Elementary Education Majors.

Bachelor of Science, Biology and English; Communications concentration; High Honors; Departmental Honors Biology and English; GPA: 3.72/4.0 *The ecological impacts of land use change: an investigation of three biodiversity indices [Honors Thesis]*.

## SPECIALIZED TRAINING

Employee Engagement for Managers. Department of Energy. April 2015

InsideOut Coaching for Managers. InsideOut Development. February 2015 and September 2014.

Ego vs. EQ. Department of Energy. August 2014.

Employee Development for Supervisors. Department of Energy. August 2014.

Program Management and Portfolio Analysis. Colleague Consulting. January 2014.

Active Project Management. Department of Energy. November 2013.

Supervisory Essentials. Department of Energy. October 2012.

Managing Federal Employees: Supervising Teleworkers. Brookings Institute. May 2012.

Five Conversations for Supervisors. DOE Energy Efficiency and Renewable Energy. February 2012.

Executive Potential Program. Graduate School USA. March 2011 to March 2012.

Leadership Potential Seminar. Eastern Management Development Center. June 2009.

Women's Leadership Workshop: Breaking Barriers. Brookings Institute. September 2008.

Congressional Briefing Conference for Presidential Management Fellows. September 2007.

Global Climate Change: How it affects you and your agency. Conference for Presidential Management Fellows. July 2007.

Biorefining: Feedstocks and Conversion Technologies Short Course. American Institute of Chemical Engineers. November 2007.

Applied Management Principles (Mini-MBA for Science and Engineering Ph.D. candidates). May 2006

